



ARCHITECTURE  
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### LOCATION MAP

BRIDGE NO. 06821  
INTERSTATE 95 OVER UNNAMED BROOK  
DARIEN, CONNECTICUT

DESIGNER	C.L.M.
DRAFTER	C.L.M.
REVIEWER	M.F.W.
SCALE	1" = 500'
PROJECT NO.	0035-0198
DATE PLOTTED	10/7/2021

**FIG-01**



**REHABILITATION OF BRIDGE NO. 06821  
CONVEYING DRAINAGE BENEATH INTERSTATE 95**

**STATE PROJECT NO. 0035-0198  
REHABILITATION OF BRIDGE NO. 06821  
INTERSTATE 95 OVER DRAINAGE  
TOWN OF DARIEN**

**PROJECT DESCRIPTION**

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**Project Location**

Bridge No. 06821 conveys drainage under Interstate 95 (I-95) and Exit 10 ramps in Darien. The structure is located 650-feet west of the interchange of I-95 and Noroton Avenue.

**Existing Bridge**

Bridge No. 06821, built in 1955, is a 72-inch wide by 42-inch tall asphalt coated corrugated metal pipe (ACCMP) arch culvert that conveys drainage under I-95 and Exit 10 ramps in Darien. The culvert starts at a catch basin/junction chamber at Exit 10 Southbound On-Ramp and is supported by reinforced concrete endwalls with flared wingwalls at the outlet. Based on the original construction drawings, there is a 3-foot by 3.5-foot box culvert that flows into the upstream catch basin. The outlet endwall has drainage outlets on each wingwall from the I-95 drainage system, which have been rerouted and filled with concrete. The culvert is under approximately 4 feet of fill with a sloped embankment at the outlet. The total length of the structure is approximately 276 feet. I-95 SB over the structure consists of Exit 10 On-Ramp and 3 travel lanes with a left and right shoulder. I-95 NB over the structure consists of 3 travel lanes, Exit 10 Off-Ramp and a left and right shoulder. The AADT of I-95 over this structure is 140,600 vehicles per day. The structure is in overall Fair Condition (Rating = 5) due to the condition of the ACCMP. There is section loss at the invert up to 5 feet long by 18 inches wide which is undermining the culvert. There are several areas where the barrel sections have separated with some minor deformation at the joints. The headwalls, return walls, and wingwalls exhibit areas of light scaling.

**Proposed Bridge Rehabilitation**

The proposed rehabilitation consists of relining the existing structure with a 64-inch x 38-inch glass reinforced polymer (GRP) arch structure. The annular space between the existing and proposed structures will be filled with flowable fill. Prior to the installation of the GRP liner, the existing ACCMP will be cleaned and any voids behind the existing pipe will be filled with pressure grout. The interface of the existing pipe inlet and the junction chamber will be repaired as required. Additionally, a preformed scour hole consisting of riprap will be constructed. To accommodate the preformed scour hole, an existing section of concrete lined channel bottom will be removed.

A temporary construction access road will be built to reach the downstream side of the structure and construct the preformed scour hole. Approximately 500 feet of guiderail and 400 feet of noise barrier wall will be removed and replaced at this location to accommodate the work. There may be minimal right-of-way impacts associated with the proposed improvements.

Maintenance and protection of traffic will consist of temporary shoulder closures at the upstream and downstream sides of the structure. It is anticipated that 3 lanes of I-95 traffic in each direction and ramp traffic will be maintained at all times. At the I-95 Northbound Off-Ramp, a construction access road will be installed to access the outlet.

It is anticipated that construction will take place from spring to fall in 2025. The estimated construction cost is approximately \$1,800,000 and is to be undertaken with 100% State funds.